Course of Study Theoretical Mechanical Engineering (Study Cohort w23)

Sample course plan A Master Theoretical Mechanical Engineering (TMBMS)

Specialisation Materials Science

Legend			
Core Qualification Compulsory	Specialisation Compulsory	Focus Compulsory	Thesis Compulsory
Core Qualification Elective Compulsory	Specialisation Elective Compulsory	Focus Elective Compulsory	Interdisciplinary complement

LP											
1	**Finite Elements Methods**			**Numerical Methods for Ordinary Differential Equations**			**Research Project Theoretical Mechanical Engineering**			**Master Thesis**	
2	Finite Element Methods	VL	2	Numerical Treatment of Ordinary Differential Equations	VL	2					
3	Finite Element Methods	HÜ	2	Numerical Treatment of Ordinary Differential Equations	GÜ	2					
4											
5											
6											
7	**Control Systems Theory and Design**			**Applied Dynamics: Numerical and experimental methods**							
8	Control Systems Theory and Design	VL	2	Applied Dynamics	VL	4					
9	Control Systems Theory and Design	GÜ	2	Lab Applied Dynamics	PR	1					
10				Applied Dynamics	GÜ	1					
11											
12											
13	**Continuum Mechanics**			**Computational Fluid Dynamics II**			**Advanced Functional Materials**				
14	Continuum Mechanics	VL	2	Computational Fluid Dynamics II	VL	2	Advanced Functional Materials	SE	2		
15	Continuum Mechanics Exercise	GÜ	2	Computational Fluid Dynamics II	HÜ	2					
16											
17											
18											
19	**Modelling and Optimization in Dynamics**			**Design optimization and probabilistic approaches in structural analysis**							
20	Flexible Multibody Systems	VL	2	Design Optimization and Probabilistic Approaches in Structural Analysis	VL	2					
21	Optimization of dynamical systems	VL	2	Design Optimization and Probabilistic Approaches in Structural Analysis	HÜ	2					
22											
23											
24											
25	**Polymers**			**Mechanical Properties**							
26	Structure and Properties of Polymers	VL	2	Mechanical Behaviour of Brittle Materials	VL	2					
27	Processing and design with polymers	VL	2	Dislocation Theory of Plasticity	VL	2					
28											
29											
30											
	Business & Management (from catalogue) - 6LP										
	Non-technical Courses for Master (from catalogue) - 6LP										

The choice of courses from the catalogue is flexible (depends on the semestral work load), provided the necessary number of required credits is reached.